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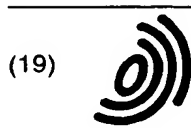
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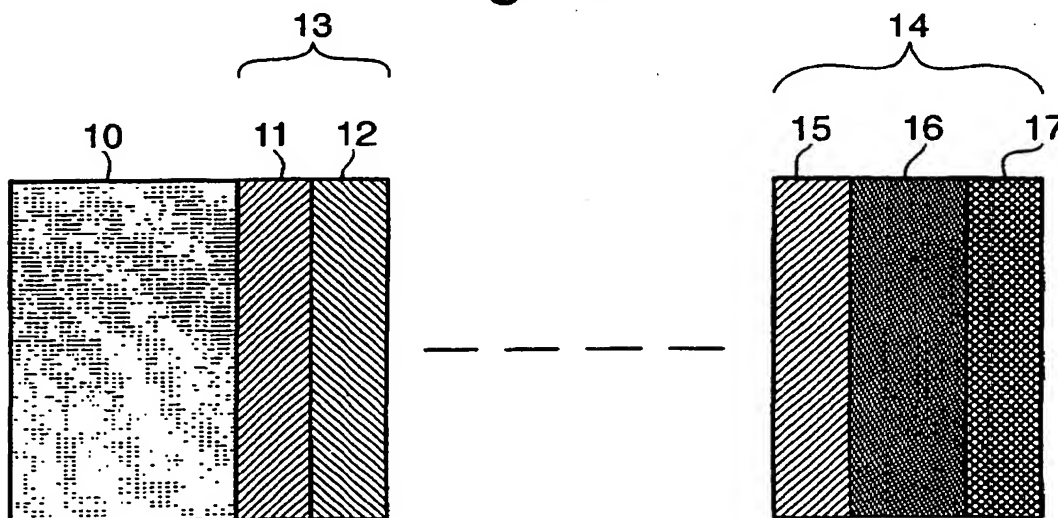
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(54) **EUV-Lithographic projection apparatus comprising an optical element with a capping layer**

(57) A lithographic projection apparatus comprises an optical element such as a multilayered EUV mirror (10,13,14) with protective capping layers (17) of diamond-like carbon (C), boron nitride (BN), boron carbide

(B<sub>4</sub>C), silicon nitride (Si<sub>3</sub>N<sub>4</sub>), silicon carbide (SiC), B, Pd, Ru, Rh, Au, MgF<sub>2</sub>, LiF, C<sub>2</sub>F<sub>4</sub> and TiN and compounds and alloys thereof. The final period (11,12) of a multilayer coating may also be modified (15,16) to provide improved protective characteristics.

**Fig.13.**





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# EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 5432

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y	EP 0 905 565 A (SIEMENS AG) 31 March 1999 (1999-03-31) * abstract; figures 3,5 *	7	
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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 24 January 2003	Examiner Michel, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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